

## **A. Appendix A: Summary of Existing Plans**

This Bicycle Master Plan builds on and supports a number of other plans and policies from the City of Greenville and other agencies and organizations. Planning and policy context is important to the successful implementation of this Plan because much of the support for bicycle-related projects will come from local sales tax, and federal and state money administered by regional and state agencies. A clear understanding of the existing policy context will enable Greenville to position projects that fulfill the policies adopted by Council and partner funding agencies.

City of Greenville land use and transportation policy is guided by a variety of plans with varying scopes. The Comprehensive Plan guides future development and sets a foundation for future growth and small area planning. GPATS Long Range Transportation Plan sets the regional vision and priority for area transportation investments. Greenville also has adopted several specific plans establishing land use, transportation and design recommendations for focused geographic areas of the city. The recommendations in this Plan refer to and support relevant goals, policies, programs and guidelines from each of these documents.

Other planning efforts conducted by a variety of public agencies also occur at the county, regional and state levels. This Plan is also consistent with and supports the relevant goals, policies and standards of these documents. Goals and objectives from the two most relevant of these plans are summarized below.

### **A.1.1. Bicycle Friendly Community Program**

The following three documents are relevant to the City's overall Bicycle Friendly Community Campaign. They are the Bicycle Friendly Portfolio, the Bicycle Friendly Community Application, and official feedback regarding the Bicycle Friendly Application.

#### **Greenville Bicycle Friendly Portfolio – City, 2009**

This catalog of collateral pieces highlights the successful programs and infrastructure improvements of Greenville's Bicycle Friendly Community campaign, especially in the vein of bicycling encouragement and education.

Items of note from this document include:

- Greenville has installed bicycle loop indicators at some intersections, including both pavement marking and signage
- Greenville has employed sharrows as a bicycle friendly treatment along bikeway routes
- Augusta Circle Elementary is a Safe Routes to School grant recipient
- Engineering firm Fluor is a bicycle friendly business

#### **Greenville Bicycle Friendly Application – City, 2009**

Greenville has offered significant staff and community training and education over the last eight years. In particular, the City hosted a Bicycle Friendly Community Workshop, led by the League of American Bicyclists, which spurred the creation of Bikeville.

A significant number of bridges are closed or inaccessible to cyclists (16 out of 42, or 38%). However, of the bridges that are accessible by bike, 100% are described as being bicycle-friendly, meaning that they include paved shoulders, bike lanes, wide curb lanes, or multi-use paths.

There is an opportunity to increase the availability of bike parking at schools, recreation centers, government buildings, parks, and commercial developments (according to this 2009 report). All libraries and transit centers offer bike parking.

Notably, Greenville bolstered its “Complete Streets” Policy with specific requirements for bike lanes on every new collector and arterial roadway construction project per its Engineering “Design and Specifications Manual.” Public and private roadways are affected.

Thirty miles of the MPO’s county-wide signed bicycle route system are within the City. The City also developed an Urban Connector Bicycle Route Signage Program, which directs cyclists to bicycle-friendly corridors.

The Lights for Life program and Rack N Ride PSA are excellent examples of Greenville’s initiative toward cyclist safety and outreach. According to the 2009 BFC application, the City is developing a Bicycle Commuter Tax provision to incentivize bike to work trips.

Greenville’s five specialty bike retailers (as reported in 2009) – as well as the newer bike recyclery store – are an important resource for the Bicycle Master Plan and bicycle friendly community efforts.

The City’s comprehensive bicycle plan was completed and adopted in January 2008, according to the 2009 application. It was one component of the City’s Trails and Greenways Master Plan and the BFC application notes that a more detailed study of the bike network is needed.

### **Bicycle Friendly Application Feedback - League of American Bicyclists, 2009**

The League of American Bicyclists is a national bicycling advocacy organization that houses the Bicycle Friendly Community designation program. In reviewing the City of Greenville’s Bicycle Friendly Community application, the League was able to identify existing strengths and opportunities for improvement of the City’s bicycling environment.

Strengths of Greenville’s bicycle friendly community initiative included:

- Vision and support of the mayor and cycling community
- Development of the [Swamp Rabbit] Trail
- Education efforts such as the Lights for Life safety campaign
- Bilingual safety outreach
- Partnership between Safe Kids Upstate and all City schools
- On-going training provide by city planning and engineering staff

The League cited three priority areas for improvements so that Greenville might improve its bicycling environment, and thus progress to the next level of bicycle-friendliness in the future. Those three priority areas are:

- Expand bicycling education for youth and adults as well as motorist education
- Update and fully implement the comprehensive bike plan, including the expansion of all programs, and continue to close gaps in the cycling network and improve access

- Continue to increase the number of arterial streets that have wide shoulders or bike lanes, while also expanding the bicycle network and increasing the network connectivity through bike lanes, shared lane arrows, and signed routes

The LAB's recommended objectives for Greenville to advance to higher levels of Bicycle Friendly Community status are summarized below:

### **Engineering**

- Continue to ensure that new and improved facilities to accommodate bicyclists conform to current best practices and guidelines provided by SCDOT and the *AASHTO Guide for the Development of Bicycle Facilities*
- Promote the bicycle coordinator to full-time employment status
- Continue to increase the amount of secure bicycle parking throughout the community

### **Education**

- Set targeted annual increases in the number of Traffic Skills 101 and other Smart Cycling courses offered each year
- Host a League Cycling Instructors seminar and work to increase the number of local LCIs
- Expand Safe Routes to School programming to all Greenville schools

### **Encouragement**

- Expand Bike to Work Day events in the city
- Continue to promote and grow non-competitive cycling events in the community
- Consider offering a 'Ciclovía' or 'Summer Streets' type of event
- Create a Smart Trips/Travel Smart transportation demand management program to encourage short trips made by bicycle

### **Enforcement**

- Continue to ensure that police officers are aware of the Share the Road message and have general knowledge regarding traffic law as it applies to bicyclists
- Host an Enforcement for Bicycle Safety Seminar
- Encourage police officers to use targeted enforcement to encourage motorists and cyclists to share the road
- Utilize the relevant resources provided by the National Highway Traffic Safety Administration

### **Evaluation/Planning**

- Continue to collect data on bicycle usage and crash statistics and use this data to prioritize improvements to the bicycle network and to target enforcement and education efforts
- Set an ambitious attainable target to increase the percentage of trips made by bike in the city
- Include performance measures within the city's bicycle master plan to track increases in mode share and to track the progress of the plan's implementation
- Continue to integrate the development of the cycling network into larger land-use planning and development projects and plans

### **A.1.2. Bike Network Concept Plan – Greenville Spinners, 2005**

- Goals: integrated, safe, and accessible network and a commitment to promote cycling as part of Greenville’s “branded” image
- Recommended components of the bicycle network:
  - Multi-use greenways
  - Bicycle boulevards
  - Urban bicycle corridors
  - Basic bicycle streets
  - Designated neighborhood routes
  - Blue paint for bike lane intersection crossings
- Proposed Phase One (to be implemented in 2006) was:
  - Downtown Bike Beltway
  - Cultural Connector
  - Ballpark Link
  - Max Heller Greenway
  - Neighborhood Network
- Bike racks along North Main and bike locker at Richardson Street/Buncombe St

The City’s *Trails & Greenways Plan* (2007) integrated the primary recommendations of this plan.

### **A.1.3. Parks, Trails & Greenway Planning**

#### **Greenville County Greenways Plan – County Recreation District, 2010**

Greenville County Recreation District completed a Greenways master plan in the summer of 2010. The plan provides a vision for greenway facilities across the entire county. The plan is particularly timely due to the County’s commitment to extend the development of the Swamp Rabbit Trail rail-to-trail conversion. Connectivity between the City of Greenville’s bicycling and trail facilities and those just beyond the City limits is crucial for establishing a successful bicycling network. The county-wide plan was funded in part through the Greenville Hospital System as part of their commitment to expanding greenways.

#### **Greenville Trails & Greenways Master Plan – City, 2007**

The City of Greenville’s Trails & Greenways Master Plan, adopted in 2007, lays the groundwork for a network of bicycle and pedestrian trails that provide close-to-home and close-to-work access for all Greenville citizens. The City and its consultants undertook a significant public involvement process, including public workshops and an online survey. That process resulted in specific visions and goals for the master plan, which included the following:

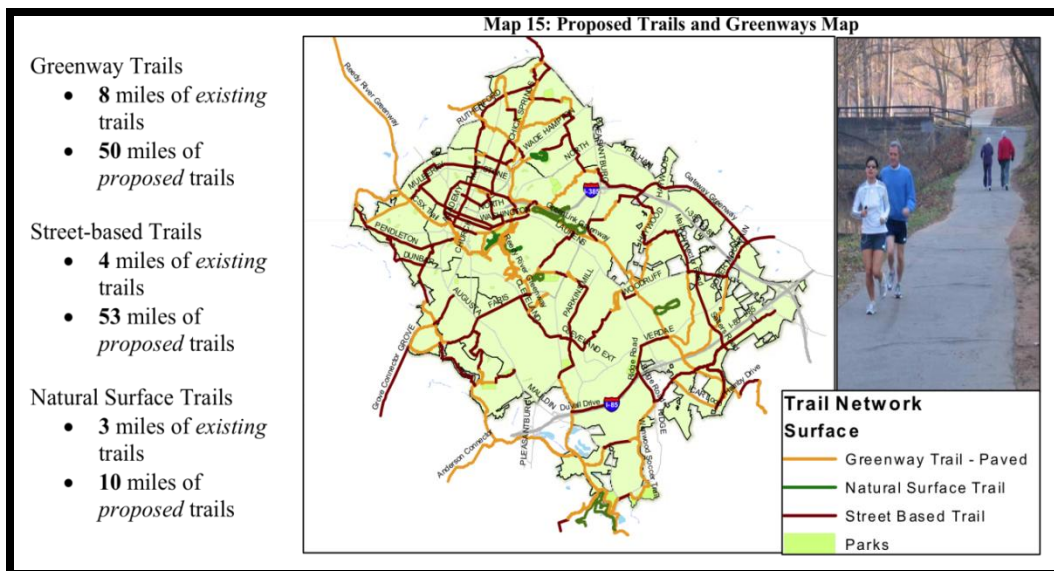
- Develop a safe and interconnected city-wide network of trail facilities that links together destinations and people, both locally and regionally
- Improve the quality of life in Greenville, by developing a trail network that provides facilities and programs designed to expand and encourage active recreation, community strength, and alternative transportation

- Enhance, protect, and preserve the environmental quality of open space, waterways and wildlife habitats
- Stimulate economic growth through increases in tourism and real property value by developing a city-wide trail network
- Conserve and tell the story of local culture, history, and heritage through interpretive trails and signage

### Existing Conditions from The Greenways Master Plan (Chapter 2)

- GTA fleet did not have bicycle racks in 2007 (though each bus now does)
- GTA has limited service area and poor public information (in 2007)
- The Reedy River Trail and the CSX Rail Trail are the two flagship segments of the spine of the future city-wide trail system
- Schools are a major destination yet have significant accessibility concerns:
  - only five of Greenville's schools lie within a half mile proximity of the existing trail system
  - only 10 lie within a mile.
  - 12 schools are outside of a mile
- Employment centers to Greenville's south and east do not have trail access

Chapter 2 also summarized numerous existing plans for the City of Greenville. In those plans, the Reedy River has always claimed primary importance for Greenville. It is also worth noting that the 1996 City Parks & Recreation survey found that the most important recreation facility for Greenville was walking/jogging/fitness/bicycle paths.



### Proposed Greenway Network (Chapter 3)

The proposed Greenway network includes three trail types:

- Type 1 = Greenway Trail (8 to 12 foot wide, paved multi-use trail in green setting)
- Type 2 = Street-based Trail (on-road routes, may include sidepath)

Type 3 = Natural Surface Trail (unpaved)

- Hub & Spoke Model
- Parks and popular destinations serve as hubs
- Five main trail corridors: Reedy River, Brushy Creek, Richland Creek, I-385, and GreenLink Corridor (the main railroad corridor)

This proposed network provides an important step in the right direction for the City. However, the model provides predominantly linear connections rather than an integrated network of trails. The Bicycle Master Plan utilizes the Greenway Plans recommended network as one of the bases for the city-wide bicycle network recommendations.

#### **Design Guidelines (Chapter 4)**

- Wayfinding signage should be seamless between on-road, off-road and transit routes
- Wayfinding examples are provided in Chapter 4 of the Greenway Master Plan, and may relate to any future bicycle wayfinding signage
- On Road Bicycle Facility design guidelines include:
  - 4 to 6 foot bike lane, without on-street parking
  - 5 to 6 foot bike lane, with on-street parking (at 8 feet for parallel parking)
  - Use 4 foot bike lane if speed limit is < 50 mph or truck volume is < 5%
  - Use 6 foot bike lane if speed limit is > 50 mph or truck volume is > 5%
  - Shared travel lane is recommended within a 14 foot traffic lane
  - 4 to 10 foot bike shoulder is also offered
  - Use 4 to 6 foot bike shoulder if speed limit is < 50 mph or truck volume is < 5%
  - Use 8 to 10 foot bike shoulder if speed limit is > 50 mph and truck volume is > 5%.
  - Sharrow specifications included

#### **Action Steps (Chapter 5)**

- Greenville has already successfully fulfilled several recommended steps of the Trails & Greenways action plan. The City approved the plan, hired a coordinator and passed a complete streets resolution.
- The third action step recommends that the Bicycle and Pedestrian Advisory Committee integrate trail & greenway progress with bicycle and pedestrian issues. This new bicycle master plan may assist that group in doing so.
- The ninth action step recommends that greenway planning be integrated with other transportation planning and funding efforts. This should be an action item for the Bicycle Master Plan as well.
- Recommendation 5.7 is for the establishment of regular pedestrian and bicycle data collection. This recommendation is being fulfilled in part by the bicycle count methodology, which will be developed for the Bicycle Master Plan.

#### **Operations & Maintenance (Chapter 6)**

- This chapter suggests that on-road bicycle facilities should be implemented during normal paving or road construction projects.

- On page 13, the plan states that “it is assumed that the current City of Greenville Public Works Department and SCDOT Maintenance Division will be able to maintain the on-roadway bicycle facility system. Some provision should be made, however, for fifteen regular inspections per year, to include minor repair or replacement of signs, vegetation grooming and other items that an inspector could remedy in the field. Additional attention should be paid to any potholes or other pavement damage. Some additional sweeping will be required where bicycle lanes and wider shoulders are provided along roads.”
- On page 14 the plan states that “remedial work for on-road bicycle facilities includes asphalt repaving (5’ on either side of the street for a two-way bike route, total 10’ width) along with curb and gutter, sewer-grate and manhole repair. Pothole and crack repair are considered routine. Pavement markings, such as bicycle lane lines, bicycle stencil markings, and edgelines should be re-installed when other roadway pavement markings are improved. Since this work is done as part of the current street maintenance regime the cost is assumed to be covered.”

Appendices: Engineering schematics are included in Appendix D of the Greenways Plan.

#### **2006-2011 Park Facilities Master Plan – City, 2006**

Key highlights of the City’s 2006 Parks & Recreation Master Plan include:

- Identified ‘more walking and cycling trails as the top major way to improve the Parks & Rec System’
- Out of the five priorities currently accepted by the Mayor, Council and staff, the top one is “Build a bikeway-trail-greenway system along the Reedy River.”
- Establish a “greenbelt” around the downtown consisting of a continuous park setting through Cleveland Park, Falls Park, McPherson Park and Main Street.
- The trail system along the Reedy River will form the spine of the trail network. Linkages from other trails and the proposed bicycle lanes will provide the ribs of the overall walking-bicycling trail system. Specifically, the following routes were identified
  - Complete the trail from Cleveland Park to Greenville Technical College
  - Complete the CSX trail from Linky Stone Park to the western city limits
  - Link Cleveland and McPherson Parks along Park Avenue and Stone Avenue
  - Link McPherson and Falls Parks along Main Street
  - Link Cleveland & Timmons Parks along Richland Creek
  - Link the proposed Gateway Park to Cleveland Park
  - Link the Twin Lakes area to Cleveland Park along the Richland Creek sewer line
  - Link the Wenwood Soccer complex to the proposed Lake Conestee Nature Preserve and the Old City Landfill Park
  - Link the future ICAR Park to the park and open space in Verdae

#### **Complete Streets Resolution & Engineering Design and Specifications Manual - City**

While complete streets resolutions have been passed in many communities around the country, Greenville’s resolution is particularly impressive. It mandates rather than suggests that bicycle, pedestrian, and transit accommodations be provided in all new City transportation improvement

projects. Additionally, that intent must be incorporated into all manuals, rules, and policies, and enforces, as such. The engineering manual requires landscaping and bicycle- and pedestrian-oriented design in all new and reconstructed roadways.

### **Engineering Directive Memorandum 22 (EDM 22), “Consideration for Bicycle Facilities” – State, 2003**

This document provides design guidelines for bicycle facilities within South Carolina Department of Transportation right-of-way. These guidelines are referenced in plans reviewed for this background summary. EDM 22 is based largely upon guidelines from AASHTO’s 1999 *Guide for the Development of Bicycle Facilities*. (The AASHTO guide is currently being updated to reflect more current thinking on bikeway development. The standards in EDM 22 should be considered for revision based on the new AASHTO guide as well as other innovative design guidance such as NACTO’s *Cities for Cycling* design guidelines.)

### **Greenville Bicycle Parking Ordinance (City Off-Street Parking & Loading Ordinance) - City**

Greenville City Council approved a bicycle parking ordinance. This is an important step in ensuring long-term bicycle-friendliness and coordinating policies with programs. The measure has the following elements:

- Requires bicycle parking
- Exempts C-4 and historic properties
- Applies to all constructions, expansions and changes of use
- Minimum: equal to ten percent of the first 100 off-street parking spaces provided on a site, plus one percent of the number of off-street parking spaces exceeding 100
- At least two bike parking spots for every site
- Can replace required off-street vehicular parking by ONE space for every SIX bicycle parking spots provided.

The ordinance also provides appropriate installation guidelines as described below:

“Parking areas shall be located for the convenient access to site amenities and primary building entrances. Parking areas shall be located on a hardscape surface, physically separated from automobile parking lots. They shall be designed to provide adequate space for ingress and egress, and not impede pedestrian and vehicle circulation. Parking areas shall be designed to provide adequate space for ingress and egress. Racks shall be designed to support a frame in two places in a stable, upright position. Racks shall be securely anchored to the lot surface. Parking areas and racks shall be designed and installed as specified in the Design and Specifications Manual.”

## **A.1.4. Comprehensive and Long-Range Planning**

### **Greenville Forward: Vision 2025 – Greenville Chamber of Commerce, 2005**

In 2003, the Greenville Chamber of Commerce launched a long-range visioning process called Greenville Forward. The report involved community-wide input and provided an updated vision from a similar process conducted in 1987. Several long-term goals of the plan relate to Greenville’s bicycling environment.



Bicycling-related goals are primarily included within the healthy community vision and the public sector vision. Broad goals related to the bicycling environment include:

- “A healthy Greenville is supported by programs for community health... bikeway and walkway networks, and a collaborative healthy system.”
- “The County’s Land Use Plan promotes more open space, preservation of farm land, mixed use development, higher densities along future transportation nodes, and encourage developments that address pedestrian needs and adopt ‘Smart Growth’ principles.”
- “In 2025, Greenville County will be a place where parks, greenways, open spaces and other destination points of interest such as residential communities, business and retail centers, hospitals, downtown areas, and multi-modal centers are connected via a system of bikeways and walkways, thereby enhancing the quality of life for all residents of the County while at the same time providing an alternate means of transportation movement within the County.”

The plan also specifically states that bicycling will be “thoroughly integrated into the planning, design and construction of all new transportation facilities,” and that existing facilities will be “retrofitted to better accommodate the needs of bicycle transportation.” Greenville Forward forecasts that in 2025:

- There is a comprehensive plan and strategy for funding and implementation of a bicycle network and related facilities for both on-and off-road systems to interconnect the interest areas and destination points noted above in the vision statement. Integrate this network with the sidewalk system.
- The County, municipalities, and the private sector provide the staff resources and sufficient funding for the maintenance, improvement, and redevelopment of existing and future bikeways throughout the County.
- The bikeway/walkway network is integrated with SCDOT transportation networks.
- There are bike lanes along existing and future roadway with curb access at intersections.
- The Greenville County bicycle network is linked with the Palmetto Trail.
- The County has bicycle/pedestrian access to public parks and places through this linked transportation system.

Greenville Forward also prioritizes a successful marketing and education plan that will promote the use of a multi-modal transportation network. Objectives of future marketing and education include:

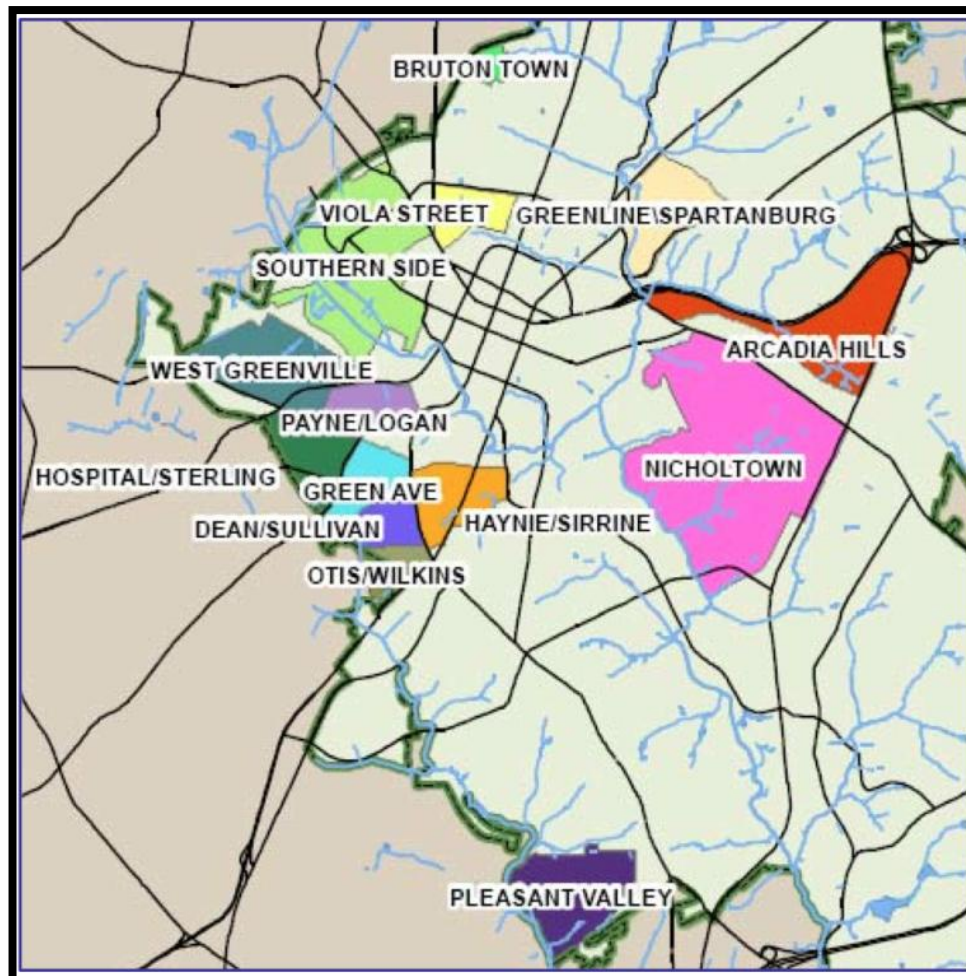
- A comprehensive regional public relations and marketing plan encourages citizens to utilize alternate forms of transportation.
- Students in grades K-12 are educated to use a variety of transportation modes.
- The public knows about the relationship between transportation and air quality and chooses transportation modes accordingly.
- Incentives are in place that makes it advantageous for people to use alternative forms of transportation.
- The economic benefits of having a multi-modal transportation system in the Upstate are well understood and direct transportation developments and improvements.

Overall, the plan propagates several strategies for reducing Greenville residents' dependence on the automobile for daily transportation needs. The report also recommends that Greenville County school systems provide free bicycle helmets to students at least once a year.

### **Greenville Comp Plan (Plan It Greenville) – City, 2007-2009**

The City's Comprehensive Plan was adopted in 2009 and provides an important overview of the community's vision and direction. The following summary provides a chapter-by-chapter look at the elements of the plan, which are relevant to the City's Bicycle Master Plan project.

Special Emphasis Neighborhoods are shown in the map below.



- The need for multi-modal transportation is discussed in the transportation & land use section of the Comp Plan. “From 1999 to 2005, Greenville’s population is projected to have grown at roughly 5%, while traffic counts on select major roads grew at an average of 47%.” (pg 55)
- Current air quality issues provide useful argument for alternative transportation options.

### **Dream (Chapter 3)**

- Results of Public Input Process included:
  - “Transportation – Respondents indicated a strong need for a pedestrian-friendly environment that includes sidewalks in neighborhoods and reduction of congestion on major roads. Individuals were also interested in the construction of bike paths to serve as alternative methods of transportation.”
  - “Walkability and Design – Many individuals were concerned with the national rise in obesity and the relation to traffic congestion. Individuals suggested designing developments to be pedestrian-friendly in order to encourage individuals to use alternative methods of travel such as walking or biking to increase activity, reduce traffic congestion, and reduce their carbon footprints. Many students also found it difficult to get around town, particularly the middle school age students that have not begun driving yet.”

### **Plan (Chapter 4)**

- Objectives determined by Theme Committees (that relate to bicycling):
  - Create safe, walkable spaces and accessible destinations
  - Create a healthy environment for all Greenville citizens including children, youth, and seniors, and residents of all socioeconomic backgrounds
  - Provide a variety of transportation options for all incomes
  - Provide linkages between all transportation options
  - Encourage transit-oriented development in appropriate areas
  - Improve air quality
  - Encourage sustainable growth
  - Encourage a wide variety of transportation modes

### **Appendix – Healthy Living Theme Committee**

- Mobility Strategies:
  - Change shoulder requirements
  - Create Bicycle Boulevards
  - Limit Curb Cuts
  - Construct multi-use trails
- Making the urban environment more bike friendly:
  - Create blue bike lanes (as suggested in the Greenville Spinners bicycle master plan)
  - Set requirements on bicycle parking (Greenville has successfully fulfilled this recommendation)
  - Enforce alternative roadway maintenance requirements

- Institute spot improvement programs (to fix little problems)
- Recognize bicycle and pedestrian needs in a construction zone
- Integrate cycling with transit
- Implement traffic mgmt and traffic calming
- Pursue access management

#### **Appendix – Transportation Theme Committee**

- Safe bicycle and pedestrian environments
  - Limit curb cuts
  - Enhance pedestrian and bicyclist entrances
  - Improve bicycle parking
  - Blue bike lanes
  - Guaranteed ride home programs

#### **Greenville 2030 Long-Range Transportation Plan – GPATS, 2007**

The metropolitan planning organization for the City of Greenville is the Greenville/Pickens Area Transportation Study (GPATS). In 2007, GPATS updated the Long-Range Transportation Plan (LRTP) for the study area. Chapter Six comprises the pedestrian and bicycle element of the plan. The Long Range Transportation Plan of the Greenville Pickens Area Transportation Study (GPATS) provides a broad, overview of a connected bicycle, pedestrian, and trail network throughout the greater Greenville area. The plan offers important linkages across City limit boundaries, as well as extending beyond Greenville County's boundaries. Future efforts to create a connected bicycling network should give strong consideration to these points of connectivity.

The LRTP is updated every five years to reflect the fast-changing landscape of the region. GPATS has begun the process of updating this plan for completion in 2012. The recommendations of the Bicycle Master Plan will be incorporated into the new version.

The LRTP acknowledges and builds upon the 2005 Bike Network Concept Plan developed by the Greenville Spinners and its partners. GPATS solicited public input through surveys, workshops, and a citizen advisory committee. Based on public input, the plan provides recommendations within four "Es" of bicycle planning: Engineering, Education, Enforcement, and Encouragement. Central elements of those recommendations that are relevant to Greenville include:

#### **Engineering**

- Traffic calming on streets with severe safety problems
- Increased use of the "sharrows" or shared-lane markings
- Improved bicycle amenities on transit
- A policy to require bicycle lanes on all 5-lane roads at the time of resurfacing
- New bicycle lanes increasing the total mileage from 7.4 to 120.

#### **Education**

- Publish a bicycle route map
- School-based bicycle safety education
- Public service announcements

### **Encouragement**

- Safe Routes to School program support
- Bicycle to School Day
- Bike to Work Week
- Bike Mentor Program
- Bicycle Rideabout

### **Enforcement**

- Targeted enforcement
- Bicycle licensing program
- Targeted positive reinforcement of safe bicycling behavior

The plan additionally suggests that municipalities pursue Bicycle Friendly Community designation, which the City of Greenville has since achieved. The plan also identifies support facilities as a primary concern for local residents and area cyclists. In response, the plan recommends the following support facilities:

- Comprehensive route system
- Share the Road signage
- Use of the Bicycle Level of Service model for bicycle planning
- Improved maintenance
- Bicycle-sensitive intersections
- Prevention of roadway symbol build-up
- Safety railings along bicycle facilities
- Increased bicycle parking

The LRTP used eleven weighted criteria to prioritize the proposed bicycle infrastructure improvements. The eleven criteria were:

- Public suggestions
- Proximity to schools
- Proximity to parks
- Proximity to libraries
- Proximity to greenways
- Proximity to transit routes
- High poverty households (Traffic Analysis Zones)
- High number of households without access to a vehicle (Traffic Analysis Zones)
- Population density per acre
- Projected population density per acre

of proposed bike lanes, wide outside lanes, four-foot paved shoulders, paved greenways and unpaved greenways are included in the final network map. (There are no four-foot paved shoulders recommended within the City of Greenville.)

### **Greenville Transit Vision & Master Plan – GreenLink, 2010**

The primary transit corridors identified in the Greenville Transit Vision & Master Plan are:

- North Corridor (US 276)
- Northeast Corridor (Wade Hampton Boulevard)
- Southeast Corridor (Laurens Road/Main Street)
- Southwest Corridor (South Church/US 29)
- West Corridor (US 123)

Many goals established in the plan directly support bicycling opportunities in Greenville. They are:

- **Natural Environment** - Enhance important ecological and recreational spaces through the expansion of the well established and expanding City/County parks and greenway system while encouraging land use and transportation activities that positively impact land, air, and water quality.
- **Community Design** - Ensure that development and redevelopment is compatible with adjacent uses, while supporting the community's vision of vibrant pedestrian- and bicycle-friendly nodes surrounded by stable neighborhoods.
- **Transportation** - Increase the viability of all modes of travel through creation of better street connectivity, providing a safer and more comfortable walking/bicycling environment, and positioning future transit investments for successful ridership levels and supportive land uses.
- **Provide Choices** - Transportation choices (such as transit, bicycling, and walking), as well as land use choice in appropriate areas should be enhanced by integrating a wider range of housing, shopping, employment, and recreational opportunities into the community.
- **Integrate Open Space Framework with Transit Corridors** - Building upon the regional greenway master plans, pedestrian and bicycle linkages to the transit corridors and the major activity nodes, as well as outdoor recreational opportunities near or adjacent to the transit corridors, should be reinforced and prioritized.

Additionally, the plan recognized the efforts to link the City's bicycle friendly campaign and transit. The City developed two videos to promote bicycles on buses and to inform the public about the new shelters. The plan recommends that a printed brochure with bicycle rack instructions be developed to complement the video.

No bicycle-friendly improvements are included in the short- to mid-term recommendations. These recommendations include the development of new park and ride lots. That suggestion should be encouraged in the Bicycle Master Plan, along with the inclusion of secure, sheltered and long-term bicycle parking at each park and ride location. Though not mentioned in the plan, the recent discussions regarding a bicycling "hub" within a renovated version of the downtown transit station would fit within this model.

The long-term recommendations include the suggestion that bicycle and pedestrian facilities be created to link to transit stops.

### Multi-Modal Transit Corridor Alternatives Feasibility Study – GCEDC, 2010

The Greenville County Economic Development Corporation (GCEDC) commissioned a study of a 3.42-mile segment of the former Greenville & Northern Rail Line south of Pleasantburg Drive. This southern portion of the rail line is owned by GCEDC and extends from approximately Pleasantburg Drive to the north of Forrester Drive. The intent is to provide high capacity transit between Greenville, Mauldin, Simpsonville, and Fountain Inn.

After qualitative and quantitative analysis of each mode, the report found that Bus Rapid Transit would be the ideal provision. The Study also reviewed the potential for bicycle and pedestrian amenities along the corridor. During the public input process, many respondents expressed a desire for bicycle and pedestrian trails in conjunction with transit. The Study presumes transit to be the priority facility within the context of a multi-modal approach.

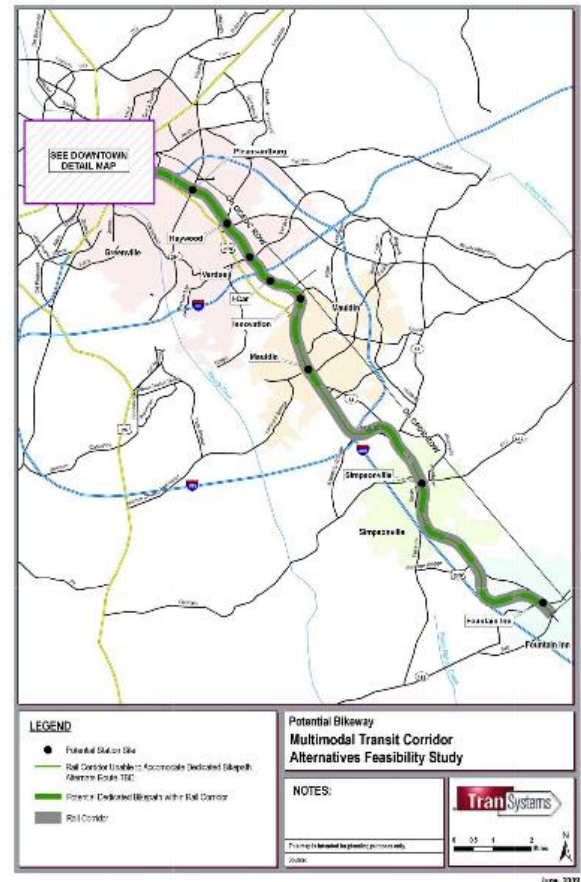
Specific sections of the proposed transit corridor are too narrow for including a bicycle and pedestrian facility. In these instances, the plan recommends continuation of those amenities by way of connections to on-street infrastructure. The following map identifies those segments with a thin green line, while sections capable of including a trail are shown with a thick green line.

Though the report provides cost estimates for implementation of high capacity transit, it does not include bicycle and pedestrian facilities as an additional line item.

There is also the possibility of extending the transit corridor to the North, should Greenville chose to develop this southern portion. In that event, the report identifies the benefit of having the existing Swamp Rabbit Trail within a separate corridor, while still parallel and adjacent to the potential transit corridor extension.

### Downtown Streetscapes Master Plan - City, 2010

The City of Greenville commissioned the Downtown Streets Master Plan as a result of the Downtown Greenville Master Plan, completed in 2008. The project's scope includes an overarching streetscape master plan, as well as schematic level planning, design, and engineering. Thirteen street segments, totaling nearly ten miles, are studied in the project. Those segments are:



**North Main St.**  
from Academy St. to Stone Ave

**Academy St. (US 123)**  
from Markley St. to E. North St.

**Church St. (US 29)**  
from Academy St. To Camperdown Way

**Buncombe St./E. North St..**  
from Butler Ave. to Academy St.

**College St./Beattie Pl.**  
from Buncombe St. to E. North St.

**Washington St.**  
from Academy St. to McBee Ave.

**Townes/Richardson/River St.**  
from Park Ave. to S. Main St.

**Spring St./Falls St.**  
from Beattie Pl. to E Camperdown Way

**W. Camperdown Way**  
from Academy St. to S. Main St.

**Augusta St.**  
from S. Main St. to Dunbar St.

**McBee Ave.**  
from W. Broad St. to E. Washington St.

**Elford St.**  
from Academy St. to Church St.

**Broad St.**  
from W. McBee Ave. to River St

The redesign of Greenville’s downtown streets is intended to “better accommodate new development, transit, pedestrians, bicyclists, parking, and landscape.” The project consultants worked with Greenville citizens and City staff to complete a thorough and multi-faceted analysis of existing conditions. They identified the following re-occurring issues:

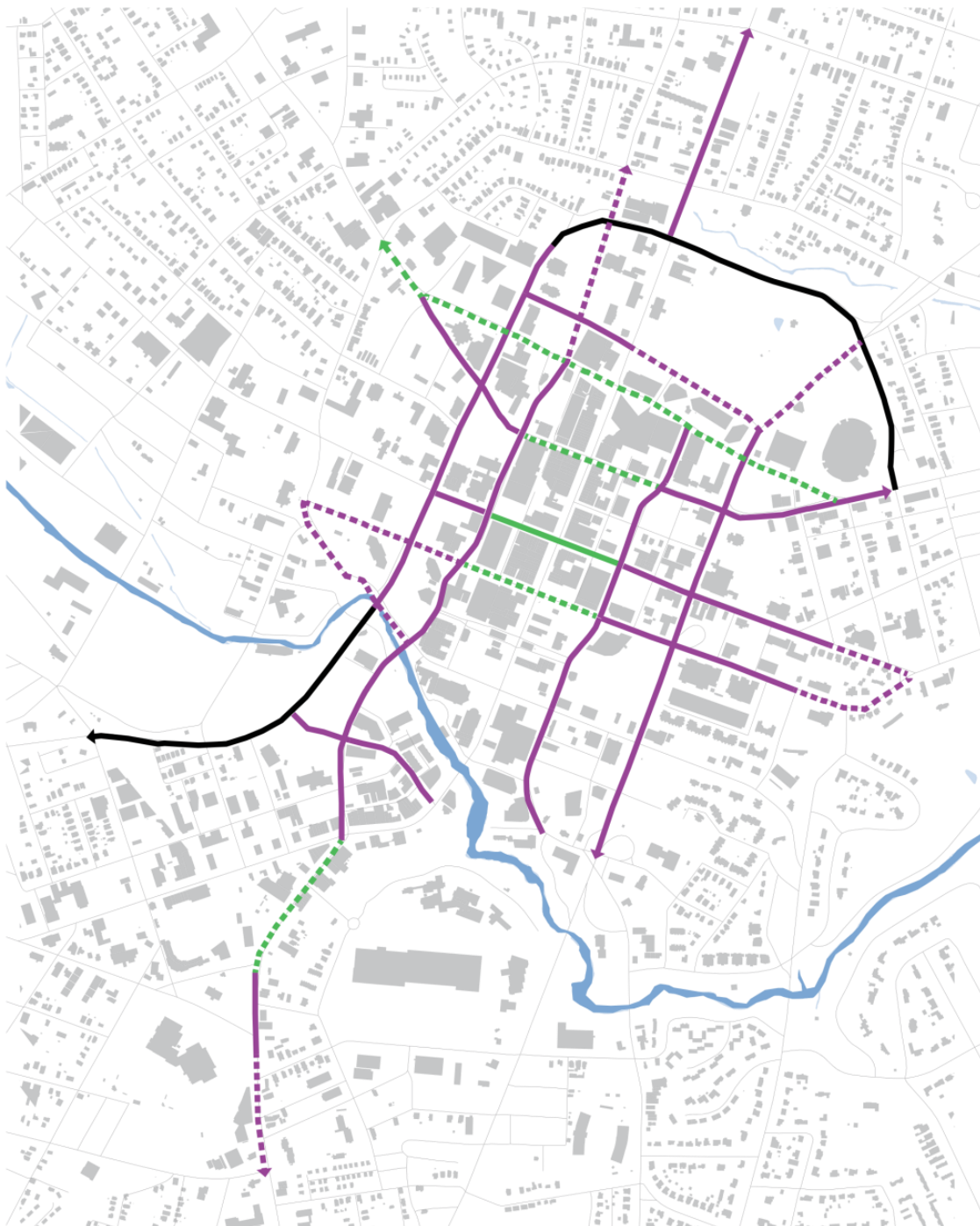
- Wide travel lane widths
- Excessive travel lanes
- Sidewalks directly adjacent to travel lanes
- Lack of pedestrian ramps at intersections
- General ADA accessibility issues
- A ‘Concrete Collar’ created by Academy Street, which establishes a physical and psychological connectivity barrier
- Beattie and North Streets are designed as high-capacity, regional roadways within a pedestrian corridor
- The large footprints of Springwood Cemetery and the Bi-Lo Center limit route options for all modes of travel

The recommended designs for downtown streetscapes fell into five categories: Ceremonial Street, Ceremonial Transition Street, Urban Fabric Street, Urban Fabric Transition Street, and Mobility Street. Each typology bears a typical cross-section. Textured turn lanes, storm water planters, parallel parking, a multi-use cultural trail, and five-foot bike lanes are examples of treatments utilized in the roadway typologies.

Two typologies incorporate specific bicycle facilities, while the other three do not. The Ceremonial Street includes a five-foot bike lane (in each direction). The Washington Street segment is a proposed Ceremonial Street. The Ceremonial Transition Street includes a “vibrant, multi-use cultural trail.” The segments along Beattie Place, Buncombe/E. North Street, and McBee Ave are proposed Ceremonial Transition Streets.



The Downtown Streetscapes Master Plan also recommends improved lighting and landscaping treatments. In particular, it specifies environmentally-friendly approaches to those elements.



**Framework Plan**

- Ceremonial Street
- - - Ceremonial Transition Street
- Urban Fabric Street
- - - Urban Fabric Transition Street
- Mobility Street

### **Downtown Greenville Master Plan – City, 2008**

Greenville City Council adopted the Downtown Greenville Master Plan in 2008. This document laid forth a cohesive vision for the heart of the city. While there are limited specific references to downtown's bicycling environment many elements of the plan will have an impact on Greenville's bicycle-friendliness and accessibility. The following list outlines bicycling-related information outlined in the plan:

- Should create a "Green Necklace" for downtown (Reedy River park/trail corridor)
- Green Necklace touches each of the five corners
- The document states that "bicycle accommodation should be accomplished through a comprehensive approach, utilizing bike lanes on arterials combined with 'share the road' integration of bicycles into vehicular traffic on streets having lower volumes, speeds and street widths." (page 52 and page 76)
- Church and Academy should remain as major thoroughfares; all other downtown core streets should be "balanced"
- Bike Lanes are proposed on Washington Street and are not shown on Main, Richardson, Spring, or Academy

### **A.1.5. Small Area and Corridor Plans**

#### **Haywood Road Area Master Plan, August 2009**

The Haywood Road Area Master Plan began as a corridor plan. Realizing the many moving parts of this interwoven retail community, however, the project consultants and the City of Greenville ultimately chose to include a broader geographic scope for this plan. The City commissioned the plan in response to declining investment in this particular retail haven.

The plan cited manageable traffic volumes as one of the strengths of this area. However, the consultants identified capacity issues at three intersections. The average annual daily traffic count for Haywood Road is between 25,000 and 28,000, according to SCDOT (2007). The County's long-range plan does not include any roadway projects in this area, but pedestrian, bike, and transit upgrades are included.

Three relevant guiding principles cited in this plan are respecting human scale, multi-modal access, and balancing needs. Additionally, the existing mix of uses is identified as a strength of the area.

The concept plan for Haywood Road includes sidewalks (five feet), grassy buffers (four feet), narrowed travel lanes (eleven feet) and landscaped medians. The plan does not include bike facilities, but will benefit bicyclists through substantial traffic calming as well as access management, reduction of curb cuts, and improved intersections.

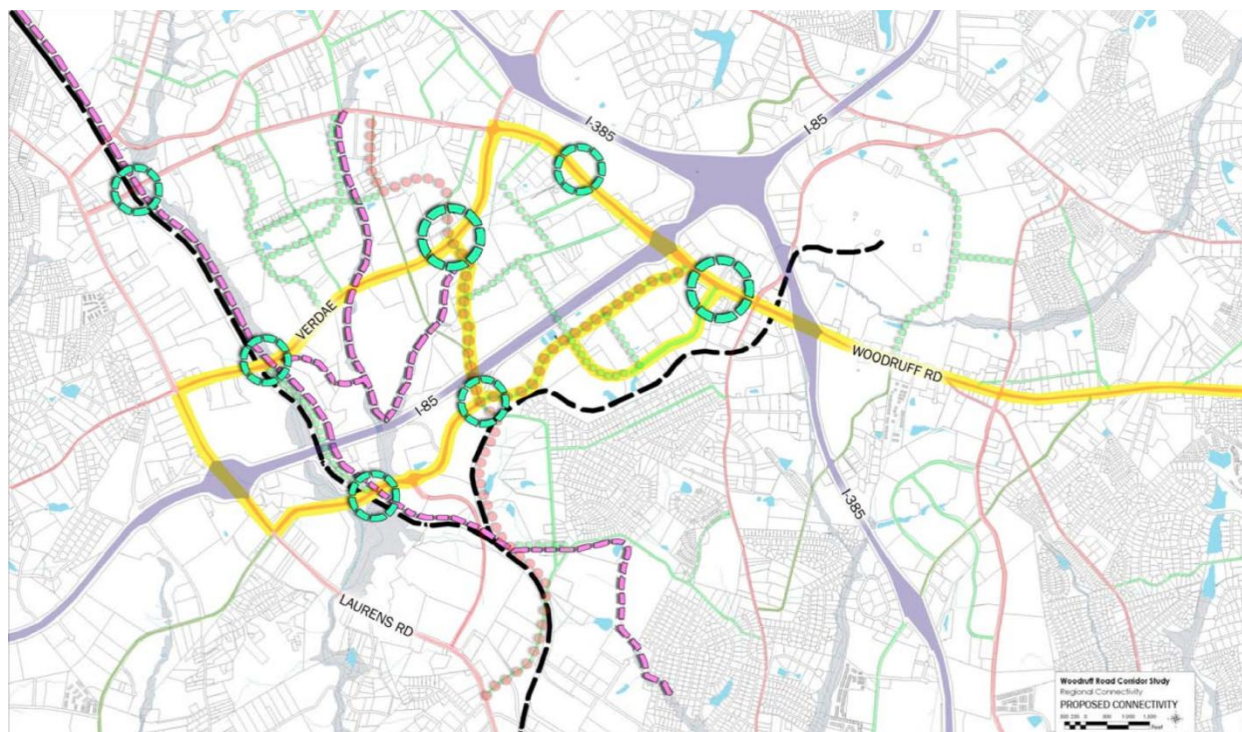
The plan recommends bicycling access to the area. It does not, however, suggest implementing on-road facilities. The plan recommends that the City work with other agencies to identify off-road, multi-use facilities that could provide those connections.

#### **Woodruff Road Corridor Study, July 2007**

The scope of the Woodruff Road Corridor Study extends from Roper Mountain Road to the west, to SC Highway 14 to the east, and Laurens Road to the south. As described in the plan, this corridor "traverses one of the most congested commercial areas in the city, and as a result, traffic patterns are affected not only along

the corridor, but also in the surrounding area.” The plan explores multi-modal access, including transit, bicycling, and pedestrian travel, as one of the solution to these congestion concerns.

The plan proposes new collector streets. These streets would include bike lanes (six feet) with a two-foot buffer between the bike lane and the travel lane. Additionally, the plan proposes new off-road greenway connections, as well. The proposed greenway routes are shown on the following page as dotted purple lines along the map.



Specifically, the plan’s list of short-term implementation priorities includes the construction of a ten-foot multi-use path from Verdae Boulevard to Millennium Point Parkway. The plan suggests using the abandoned SCL rail line and existing underpass located at I-85 and estimates a probable construction cost of \$600,000.

The Woodruff Road Corridor Plan also recommends that the City and County adopt a connectivity ordinance. This ordinance would ensure that linkages for cars, bicyclists, and pedestrians are created between existing and new developments.

#### **Pleasantburg Drive Corridor Master Plan, May 2004**

Pleasantburg Drive is an important corridor for Greenville, not simply for its role as an arterial moving traffic volume, but also for the regional destinations dotted along its path. Those include Greenville Tech, University Center, Carolina First Center, Downtown Greenville Airport, and Bob Jones University. Several neighborhoods border the corridor as well, including Nicholtown and Arcadia Hills.

Strengths of this area include the regional attractions, the overall mix of uses present, and the investment in revitalization in some areas (like the Greenville Housing Authority). Challenges include the lack of connectivity between the different land uses and the street’s function as a through-way.

Pertinent recommendations for the Carolina First Center focus area include:

- Realigning Eisenhower Drive and Tower Drive
- Adding three new roadway linkages
- Creating street network connections between Lowndes Hill Road and Eisenhower Drive
- Providing better 'back' access for the Expo Center to a reconfigured Lowndes Hill Road

Though the cross section for Tower Drive does not include bicycle lanes or sidepaths, the narrowed lanes, access management and landscaping will improve conditions for bicyclists. Additionally, several difficult intersections within this focus area will improve for bicyclists and pedestrians.

Pertinent recommendations for the McAlister Square focus area include:

- Extending Antrim Drive
- Improving spacing of intersection signals
- Increased street grid connectivity

Again, while there is no provision for bicycle lanes or facilities, the recommended improvements to the auto environment and the promotion of mixed uses and connectivity will be an improvement for bicycling.

The plan calls for the narrowing of Pleasantburg Drive. Replacing the outside-most lanes with planting strips will calm traffic and improve the area's image. In relation to Greenville's Bicycle Master Plan, this proposal could improve the environment for bicycling as well.

### **Pete Hollis Gateway Area Plan, March 2006**

The Pete Hollis Gateway Area Plan creates a vision for redevelopment within the area along Pete Hollis Boulevard. It encourages mixed-use development within the study area.

According to this plan, the original bicycle master plan completed by the Greenville Spinners, connects the neighborhoods of the study area with several bike-use streets.

### **Dunbar-West Greenville Revitalization Study – City, 2002**

Completed in 2002, the Dunbar-West Greenville Revitalization Study laid the groundwork for much of what is present and emerging in the West Greenville District today. This community is establishing itself as an arts district, incentivizing new investment and development, and organizing as a cohesive group of proactive residents.

Primary elements of this plan, as it relates to the Greenville Bicycle Master Plan, include:

- Turning Dunbar Street into a boulevard, with narrowed travel lanes and a landscaped center median
- Promoting increased density and mixes of uses in new development
- Investing in streetscapes as a way to attract new business and improve neighborhood perceptions

The study also notes the area's challenges, including low-income residents, high levels of rental housing, and a history of criminal activity (though that has improved substantially since the late 1990s). As a "special emphasis" neighborhood of the City of Greenville, the Dunbar-West Greenville area should be targeted in the Bicycle Master Plan as an area for improved bicycling connectivity.